

# **Cane River National Heritage Area: Visitor Characteristics and Economic Impacts**



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May, 2004

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## Cane River National Heritage Area: Visitor Characteristics and Economic Impacts

### CANE RIVER NATIONAL HERITAGE AREA

Located primarily in Natchitoches Parish, Louisiana (Figure 1), the Cane River National Heritage Area (CRNHA) is known for its historic plantations, its distinctive Creole architecture, and its multi-cultural legacy, including French, Spanish, African, American Indian, and Creole. The central corridor of the heritage area begins south of Natchitoches, the oldest permanent settlement in the Louisiana Purchase, and extends along both sides of Cane River Lake for approximately 35 miles. Established in 1994 and managed by the Cane River National Heritage Area Commission, the heritage area includes Cane River Creole National Historical Park, seven National Historic Landmarks, three State Historic Sites, and many historic plantations, homes, and churches (National Park Service, 2004).



Figure 1. Cane River NHA

### CANE RIVER NATIONAL HERITAGE AREA VISITOR SURVEY

The Cane River NHA visitor survey was conducted from July to December 2003 at 4 sampling locations (Table 1). The survey was designed to gather basic visitor information and trip characteristics and especially data necessary to estimate economic impacts of visitor spending using the MGM2 model (Stynes, Propst, Chang, and Sun, 2000). Cane River NHA staff helped identify sampling locations and carried out data collection procedures. Technical assistance with the survey design and data analysis were provided by Michigan State University. The visitor survey used a two-stage approach, contacting visitors at heritage sites where a short initial survey was conducted. One adult member of each party was interviewed. Subjects were then asked if they are willing to complete a more extensive mailback survey at the end of their trip. The mailback survey measured spending patterns, activities, evaluations of visitor experiences, and more detailed trip information. Mailback surveys were sent to participants after they arrived back home. General survey procedures are outlined in a guidebook being followed at several heritage areas (Stynes and Sun, 2003).

The on-site survey generated 399 responses. Sixty-three percent of the subjects agreed to participate in the mailback survey. The response rate to the mailback survey was 43%, yielding

107 completed mailback responses (Table 1). Forty-one percent of onsite responses were generated at the Natchitoches Tourist Commission Site and 25% were generated at the Oakland Plantation at the Cane River Creole National Historical Park (CRCNHP).

**Table 1. Sample Size and Response Rates by Sampling Locations**

Sampling locations	<i>Onsite responses</i> (A)	<i>Agree to participate in the mailback</i> (B)	<i>Mailback responses</i> (C)	<i>Response rate I</i> (C/A)	<i>Response rate II</i> (C/B)
Natchitoches Tourist Commission Site	162	97	33	20%	34%
Melrose Plantation	89	54	29	33%	54%
Fort St. Jean Baptiste State Historic Site	50	30	14	28%	47%
<u>Oakland Plantation, CRCNHP</u>	<u>98</u>	<u>69</u>	<u>31</u>	<u>32%</u>	<u>45%</u>
Total	399	250	107	27%	43%

Visitor characteristics and trip patterns are summarized first. Spending patterns and other variables critical to the economic impact analysis are presented within the economic impact analysis section.

## VISITOR AND TRIP CHARACTERISTICS

### Visitor Characteristics

Half of the sampled population is above age 55, and one in five has annual income higher than \$100,000 or has some graduate school (Table 2). Eighty-five percent of the sampled population have no children in the household. Most of the samples are White/Caucasian and two cases identified themselves as Creole. Thirty percent of the samples are in-state visitors and 4% are international visitors.

**Table 2. User Demographics**

Attributes	N	Percent	Attributes	N	Percent
<b>Gender</b>			<b>Composition of household members</b>		
Male	44	41	Adults only (18+)	86	85
<u>Female</u>	<u>63</u>	<u>59</u>	<u>Adults and children</u>	<u>15</u>	<u>15</u>
Total	107	100	Total	101	100
<b>Age</b>			<b>Household income</b>		
< 25	2	2	< \$20,000	1	1
26 - 35	6	6	\$20,000 - \$34,999	12	13
36 - 45	9	8	\$35,000 - \$49,999	11	12
46 - 55	36	34	\$50,000 - \$74,999	25	27
56 - 65	38	36	\$75,000 - \$99,999	24	26
<u>&gt; 65</u>	<u>16</u>	<u>15</u>	<u>\$100,000 or more</u>	<u>18</u>	<u>20</u>
Total	107	100	Total	91	100
<b>Racial/Ethnic<sup>a</sup></b>			<b>Education</b>		
American Indian/Alaskan Native	3	3%	Less than high school	11	10
Asian	1	1%	High school graduate	33	31
Black or African American	2	2%	Some college or 2 year degree	28	26
Creole	2	2%	4-year undergraduate degree	10	9
Hispanic or Latino	0	0%	<u>Some graduate school</u>	<u>25</u>	<u>23</u>
Native Hawaiian/Pacific Islander	0	0%	Total	107	100
White/Caucasian	101	94%	<b>Age of Adults in the household<sup>a</sup></b>		
Other <sup>b</sup>	2	2%	18-25	Pct	Mean
<b>Origins<sup>c</sup></b>			26-59	14%	1.58
Local visitors	4	1%	60 or older	73%	1.70
In-state visitors	122	31%	52%	1.62	
Out-state visitors	255	65%	<b>Age of Children in the household<sup>a</sup></b>		
<u>International visitors<sup>d</sup></u>	<u>14</u>	<u>4%</u>	<5	27%	1.50
Total	395	100%	6-12	33%	1.20
			13-17	47%	1.14

Note. Information was obtained from the mailback survey. <sup>a</sup> Percentages do not equal 100 because visitors could select more than one category. <sup>b</sup> Two sampled visitors considered themselves as "Cajun". <sup>c</sup> Information was obtained from the onsite survey. <sup>d</sup> New Zealand (n=1), Netherlands (n=3), Mexico (n=1), Germany (n=1), France (n=4), England (n=1), and Canada (n=2).

## Trip Characteristics

Two-thirds of the samples indicated that this trip was their first visit to Natchitoches/Cane River area. The repeated visitors had an average of 1.4 visits to the region in the past 12 months. One fourth of the visitors were on day trips to the region with an average stay of five hours; visitors who stayed overnight in the region (74%) had an average stay of 2.4 nights. Hotels were the most frequently cited lodging type (46%) for overnight visitors, followed by Bed and Breakfasts (B&B) (25%), and campgrounds (12%). Fifteen percent of the visitors traveled with children and seven percent traveled with a bus tour or chartered group.

**Table 3. Trip Characteristics**

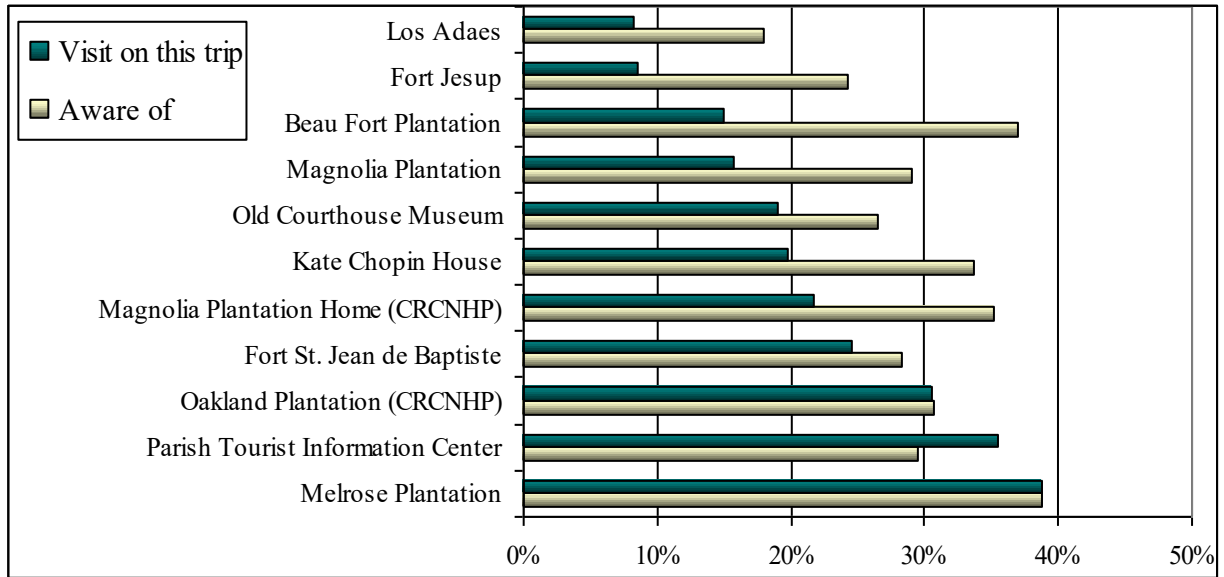
First trip to Natchitoches/Cane River area				A day trip or overnight trip					
	Frequency		Percent			Frequency		Percent	
No	148		37		Day Trip	104		26	
<u>Yes</u>	<u>248</u>		<u>63</u>		<u>Overnight Trip</u>	<u>295</u>		<u>74</u>	
Total	396		100		Total	399		100	
Composition of the travel party				Lodging used in the local area					
	Frequency		Percent			Frequency		Percent	
Adults only	337		85		Hotel or motel	140		46	
<u>Adults with children</u>	<u>61</u>		<u>15</u>		Bed & Breakfast	76		25	
Total	398		100		Campground	36		12	
Distribution of adults and children in the travel party				Staying with friends					
	Adults	Percent	Children	Percent		Frequency		Percent	
	1	5	0	85	Staying overnight				
	2	63	1	7	<u>outside the area</u>	<u>31</u>		<u>10</u>	
	3	11	2	4	Total	304		100	
	4	10	3	3	Length of stay in the local area				
	5	2	4	1	Day Trips		Overnight Trips		
	6	3	6	0	Hours	Frequency	Nights	Frequency	
	8	1	15	0	1	3	1	29	
	9	0	<u>30</u>	<u>0</u>	2	6	2	48	
	<u>10+</u>	<u>6</u>	Total	100	3	7	3	13	
Total	100		N	398	4	22	4	4	
N	398				5	14	5	1	
					6	21	6	1	
Average	5.5		Average	0.4	7	2	7	1	
					8	19	12	1	
Part of a bus tour or other chartered group				9+				14+	
	Frequency		Percent		Hours	Frequency	Nights	Frequency	
No	371		93		9+	7	14+	1	
<u>Yes</u>	<u>27</u>		<u>7</u>		Total	100	Total	100	
Total	398		100		N	105	N	267	
					Average	5.5	Average	2.4	

## Travel Pattern

Ranking of facilities/attractions that were most visited or of which visitors were most aware, were influenced by where visitors were interviewed, and results in Table 4 should be interpreted carefully. From the sampled visitors, Melrose Plantation was the most visited site in the region, followed by the Parish Tourist Information Center. Of the sites in the region, visitors were most aware of Melrose Plantation and Beau Fort Plantation. On average, visitors who took the onsite survey reported visiting 2.7 sites/attractions, and those who filled out the mailback survey visited 3.75 sites. Fifty percent of visitors reported the listed attractions were their primary destination and 27% attended a special event in the region. Christmas Festival (n=12) and Annual Tour of Homes (n=5) are the two most cited events.

**Table 4. Travel Patterns**

<u>Facilities/attractions ever visited and visited on this trip</u>			<u>Attend a special event</u>		
<u>Attractions</u>	<u>Aware of</u>	<u>Visit on this trip</u>			
			<u>Frequency</u>		<u>Percent</u>
1. Melrose Plantation	39%	39%	No	74	73
2. Parish Tourist Information Center	30%	36%	<u>Yes</u>	<u>28</u>	<u>27</u>
3. Oakland Plantation unit (CRCNHP)	31%	31%	Total	102	100
4. Fort St. Jean Baptiste State Historic Site	28%	25%	Note. Events listed by the participants were Christmas Festival (n=12), Annual tour of homes (n=5), NSU Folk Festival (n=2), Heart of Spain (n=2), football game (n=1), Fort St. Jean game day (n=1), Fourth of July fireworks (n=1), La. Unit Rally (n=1), RV club rally (n=1), and St. Augustine fair (n=1).		
5. Magnolia Plantation Home	35%	22%	Total attractions/sites visited on the trip by sampling locations		
6. Kate Chopin House	34%	20%	<u>Sampling location</u>		<u>Onsite Survey</u>
7. Old Courthouse Museum	27%	19%			<u>Mailback Survey</u>
8. Magnolia Plantation unit (CRCNHP)	29%	16%	Natchitoches Tourist Commission	2.38	3.41
9. Beau Fort Plantation	37%	15%	Melrose Plantation	2.44	3.76
10. Fort Jesup State Historic Site	24%	9%	Fort St. Jean Baptiste	2.88	3.86
11. Los Adaes State Historic Site	18%	8%	<u>Oakland Plantation, CRCNHP</u>	<u>3.38</u>	<u>4.06</u>
Were one or more of these facilities the trip's primary destination			Total	2.70	3.75
	<u>Frequency</u>	<u>Percent</u>	The figures include the site where visitors were interviewed.		
No	193	50			
<u>Yes</u>	<u>196</u>	<u>50</u>			
Total	389	100			



**Figure 2. Facilities/attraction that were visited on the trip and was aware of**



### Awareness of CRNHA and Importance of Heritage Resources/Programs

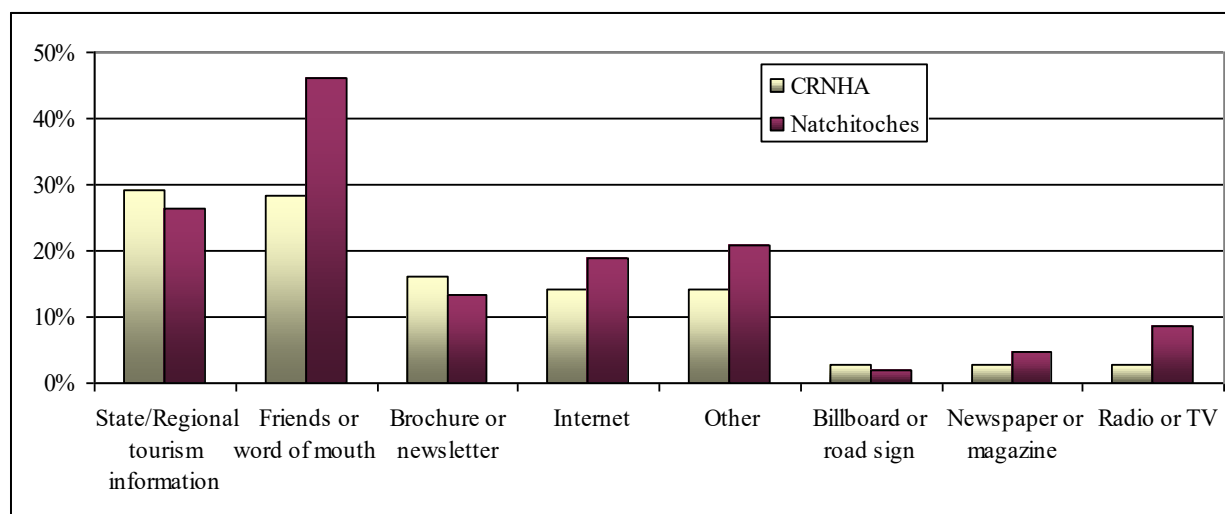
Awareness of the heritage area was measured in the on-site survey, while visitor evaluations of their experiences were measured in the mailback. About a third of the sample was at least “somewhat familiar” with the heritage area, while 60% indicated they were not aware and 3% were not sure (Table 5). Another indicator of the importance of heritage programs and resources in attracting visitors is the percentage of visitors citing these as important reasons for their trip. Two-thirds of the mailback respondents indicated that Cane River NHA was the primary reason for their trip and 28% reported Cane River as a side trip or stop.

State/regional tourism materials were cited most often by visitors as the source of information about Cane River NHA, while friends or word of mouth was the major media by which visitors learned about Natchitoches (Figure 3).

**Table 5. Awareness and Historical Components for Making the Trip**

Familiarity with Cane River National Heritage Area			Primary purpose of the trip		
	Frequency	Percent		Frequency	Percent
Very familiar	14	4	Specifically to visit Cane River NHA	67	64
Somewhat familiar	136	34	Cane River was a side trip or stop	29	28
Unfamiliar	236	60	Visiting friends or relatives in the area	6	6
<u>Not sure</u>	<u>11</u>	<u>3</u>	<u>Business or combined business/pleasure trip</u>	<u>3</u>	<u>3</u>
<b>Total</b>	<b>397</b>	<b>100</b>	<b>Total</b>	<b>105</b>	<b>100</b>

Note. Information was obtained from the mailback survey.



**Figure 3. Sources of information where visitors first learned about Cane River NHA & Natchitoches**

Note. Information was obtained from the mailback survey.

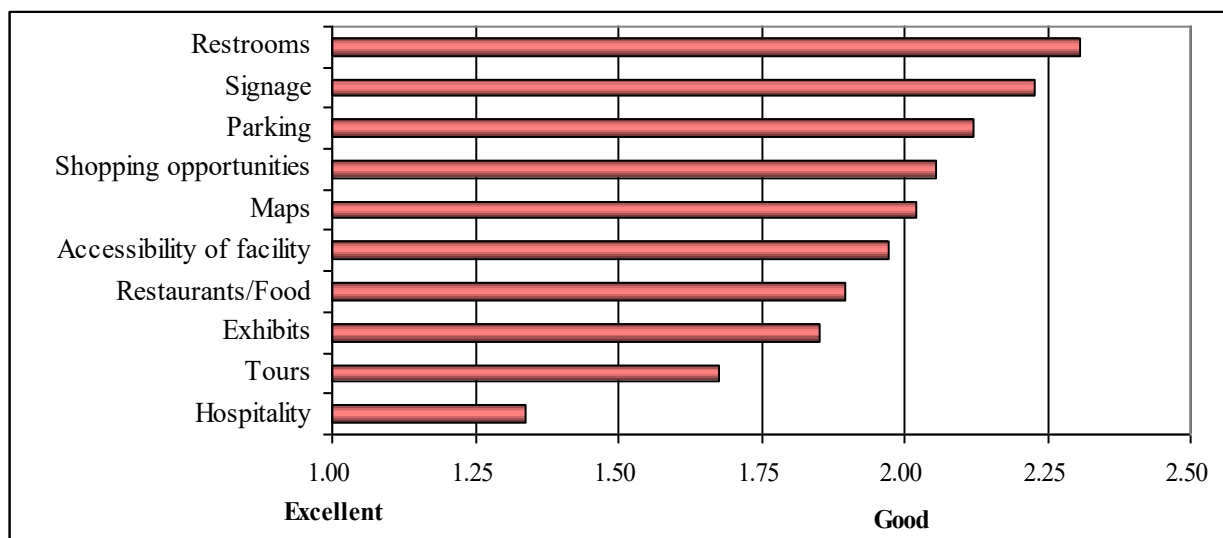
### Evaluation of Visitor Experiences

Hospitality received the highest rating among all services; 94% of visitors rated hospitality as “excellent” or “good”. Signage and restrooms received the lowest ratings, although still in the good to average range (Table 6). Evaluations were measured in the post trip survey after visitors completed the trip.

**Table 6. Ratings of visitor experiences at the Cane River National Heritage Area**

Attributes	Excellent	Good	Average	Poor	Very poor	Don't know	Total	Average
Hospitality	73%	21%	5%	1%	0%	1%	102	1.34
Tours	44%	36%	8%	3%	0%	9%	98	1.67
Exhibits	29%	45%	11%	1%	1%	12%	99	1.85
Restaurants/Food	39%	30%	21%	3%	1%	6%	102	1.90
Accessibility of facility	10%	22%	4%	1%	1%	61%	96	1.97
Maps	32%	40%	17%	6%	2%	4%	103	2.02
Shopping opportunities	26%	43%	16%	6%	1%	8%	100	2.05
Parking	27%	40%	22%	9%	0%	2%	102	2.12
Signage	25%	42%	16%	10%	4%	3%	104	2.23
Restrooms	17%	38%	31%	3%	3%	8%	103	2.31

Note. 1 equals “excellent”; 5 equals “very poor”. Mean value close to 1 implies a very good quality



**Figure 4. Evaluation scores for services in Cane River NHA**

Means computed using following scale: 1=excellent, 2=good, 3=average, 4=poor and 5=very poor.

## ECONOMIC IMPACTS OF VISITORS TO CANE RIVER NATIONAL HERITAGE AREA

The economic impacts of heritage visitors are estimated as:

$$\text{Economic Impacts} = \text{Number of Visits} * \text{Spending per Visit} * \text{Multipliers}$$

Visits are estimated from counts at the Natchitoches Tourist Information Center and seven other facilities within Cane River National Heritage Area (CRNHA). Visitor counts are converted to party trips and nights in the area using average party size and length of stay estimates from the visitor survey. Spending averages are estimated from the CRNHA surveys. Impacts are estimated for the Natchitoches Parish region. The MGM2 rural area multipliers are used to estimate secondary effects and the MGM2 model is used to make the impact calculations (Stynes et. al., 2000).

### Visitor Segments

In order to reliably estimate spending and economic impacts, visitors must be segmented into trip types that help explain spending patterns. Four segments were formed from data gathered in the on-site survey:

**Local-day trip:** Day visitors who reside in the local area, Natchitoches/Cane River area, with three-digit ZIP code of 700 to 713.

**Non-local day trips:** Day visitors from outside the region, not staying overnight in the area. This includes visitors on extended trips who spend part of a day visiting the area.

**Hotel:** Overnight visitors staying in hotels, motels, or bed and breakfast (B&B) establishments in the region.

**Other OVN:** Other overnight visitors including campers and visitors staying with friends or relatives in the region.

We estimate that about 50% of visitors are on day trips or passing through the area, about 5% are local residents, 30% are staying overnight in area hotels or B&B's, and 15% are staying overnight in other accommodations (campgrounds or staying with friends or relatives). A higher percentage of respondents to the mailback survey were overnight visitors. The estimates from the on-site survey are more reliable, but will also overestimate the percentage of overnight visitors due to longer stays in the area and a tendency to visit more attractions where they may be sampled. The adjusted figures correct for the length of stay bias (Table 7).

**Table 7. Cane River NHA Visitor Segment Shares**

Segment	Mailback	On-Site	Adjusted
Local Day Trips	0%	1%	5%
Non-Local Day Trips	16%	30%	50%
Hotel/B&B	64%	55%	35%
<u>Other Overnight</u>	<u>20%</u>	<u>14%</u>	<u>10%</u>
Total	100%	100%	100%

## Visits

Approximately 229,000 visits were recorded at eight sites in CRNHA in 2002 (Table 8). The majority of these visits were measured at the Tourist Information Center (72%). The CRNHA region includes other attractions for which visitation data were not available. For economic analysis the appropriate unit of analysis is trips to the region or days/nights spent in the area rather than visits to individual facilities. If most heritage visitors to the region visit one or more of the measured facilities on their trip, they will be covered by the 229,000 visits that were measured in 2002.

**Table 8. Visits to Cane River National Heritage Area , 2002**

Site	Visits	Pct
Fort Jesup	9,444	4%
Los Adaes	3,473	2%
Fort St. Jean de Baptiste	15,289	7%
Oakland Plantation Unit (CRCNHP)	7,977	3%
Melrose Plantation	9,198	4%
Kate Chopin House	2,513	1%
<u>Old Courthouse Museum</u>	<u>15,420</u>	<u>7%</u>
<b>Subtotal</b>	63,314	28%
<u>Tourist Information Center</u>	<u>165,276</u>	<u>72%</u>
<b>Total Combined</b>	228,590	100%
<b>Visitation figure after adjusting for Double Counting</b>	100,000	

There will be some double counting of CRNHA visitors that visit more than one of these attractions on their trip. Some visitors may also be counted more than once at a single attraction during their stay in the area. This appears to be the case for the tourist information center. About 30 percent of visitors contacted at Melrose or Oakland Plantations or Fort. St. Jean de Baptiste reported visiting the Tourist Information Center (Table A1). On average, visitors contacted at the Information Center visited one other site where visits are counted. The survey results and visit

counts, however, are not entirely consistent<sup>1</sup>. There may be some double counting of visitors at the information center, errors in the counts at other facilities, or inconsistencies in the counting of children. Impact estimates will be based on 100,000 visitors excluding any local visitors. This assumes a typical visitor would be counted 2.3 times during a stay in the area.

## Spending

The Cane River National Heritage Area visitor survey measured spending by visitors within 30 miles of the heritage area on their trip. Spending was measured for the entire travel party and then converted to per party day/night basis by dividing the trip spending by lengths of stay. The average length of stay was 1.9 nights for hotel visitors and 2.8 nights for other overnight visitors. For the purpose of estimating spending impacts, only half of the nights for the “other overnight” segment are attributed to Cane River NHA. The average party size was 2.5 for the hotel segment, 2.8 for other overnight visitors and 2.9 for day trips.

Distinct spending profiles are estimated for each of three visitor trip segments<sup>2</sup>. Visitors on day trips from outside the region spent an average of \$100 on their trip while overnight visitors staying in hotels, motels or B&B’s spent \$466 for an average stay of 1.9 nights, or about \$216 per party per night. Overnight visitors staying in hotels, motels or B&B’s averaged about \$100 per night for the room (Table 9 & 10).

**Table 9. Cane River NHA, Visitor Spending (\$ per party per trip)**

Category	Day Trip	Overnight in Hotel	Other Overnight
Lodging	\$ 0	\$ 191.36	\$ 38.25
Restaurants	29.38	113.6	61.25
Groceries	1.56	10.24	22.85
Gas	14.72	29.68	18.15
Other transportation expenses	0.31	7.94	0.8
Admissions	15.33	31.29	19.75
<u>Shopping</u>	<u>38.16</u>	<u>82.02</u>	<u>55.5</u>
Total Spending per Trip	99.46	466.12	216.55
Number of cases	16	63	20
Length of stay	1.0	1.9	2.8
<u>Party size</u>	<u>2.9</u>	<u>2.5</u>	<u>2.8</u>

Spending averages estimated in CRNHA survey are subject to sampling errors of 7-20%. Although based on fairly small samples, the CRNHA spending profiles for specific trip type segments are similar to those measured at other heritage areas.

The trip spending averages can be converted to a per party per night basis by dividing by

<sup>1</sup> For example, if visitors to the information center each visit at least one other facility that counts visitors, the subtotal in Table 2 would be at least 165,000 instead of only 63,000.

<sup>2</sup> Only three local residents were contacted in the on-site survey and no locals were included in the mailback survey. An average spending figure of \$35 per party is used for locals.

the lengths of stay for each segment. Visitors on day trips spend about \$100 per day, visitors in hotels or B&B's spend \$245 per night and other overnight visitors spend \$77 per night in the local area (Table 10).

**Table 10. Spending Per Day/Night by Cane River NHA Visitor Segment**

Spending Category	Local	Day trip	Overnight in Hotel	Other Overnight
Lodging	\$ 0.00	\$ 0.00	\$ 100.72	\$ 13.66
Restaurants	12.90	29.38	59.79	21.88
Groceries	1.72	1.56	5.39	8.16
Gas	4.68	14.72	15.62	6.48
Other transportation expenses	0.70	0.31	4.18	0.29
Admissions	5.00	15.33	16.47	7.05
<u>Shopping</u>	<u>10.00</u>	<u>38.16</u>	<u>43.17</u>	<u>19.82</u>
Total	35.00	99.46	245.33	77.34
Standard error of mean	NA	20.21	17.22	14.33
Percent error	NA	19%	7%	21%

Note. The local day visitor spending profile is adopted from the MGM2 default parameters.

Total visitor spending is estimated by multiplying the number of visits within each segment and the spending averages. To use the per night spending averages, visits must first be converted to a party day/night basis using the following formula:

$$\text{Party nights} = (\text{Person visits} * \text{length of stay}) / \text{party size}$$

The 100,000 visits to CRNHA translate into approximately 37,000 party trips to the area and 51,000 party days/nights. The hotel segment accounts for 52% of the party nights, other overnight stays account for 10%, day trips from outside the region 34% and, locals 4% (Table 11)

**Table 11. Conversion of Visits to Party Days/Nights in the Area by Segment**

Visitors	Local	Day trip	Hotel	Other	Total
Visits	5,000	50,000	35,000	10,000	100,000
Pct by segment	5%	50%	35%	10%	100%
Party size	2.3	2.9	2.5	2.8	2.7
Party trip	2,174	17,241	14,000	3,571	36,987
Pct of trips	6%	47%	38%	10%	100%
Length of stay	1.0	1.0	1.9	1.4 <sup>a</sup>	1.4
Party days/nights	2,174	17,241	26,600	5,000	51,015
Percent of days	4%	34%	52%	10%	100%

Note. <sup>a</sup> Total party days are reduced half using a shorter length of stay in the region.

Cane River visitors spent an estimated \$8.7 million in the local area in 2002 (Table 12). About a third of this spending is for lodging, 26% in restaurants and 22% for shopping. Visitors staying overnight in hotels attributed 75% of the total spending. The \$8.7 million in spending represents a third of the \$27 million in overall tourist spending reported for Natchitoches Parish by the Travel Industry Association (TIA, 2004) for 2002.

**Table 12. Total Spending of CRNHA Visitors in the Local Area by Segment and Spending Category, 2002**

Spending Category	Local	Day trip	Hotel	Other	Total	Pct
Lodging	\$ 0	\$ 0	\$ 2,679,040	\$ 68,304	\$ 2,747,344	32%
Restaurants	28,043	506,552	1,590,400	109,375	2,234,370	26%
Groceries	3,739	26,897	143,360	40,804	214,799	2%
Gas	10,174	253,793	415,520	32,411	711,898	8%
Other transportation expenses	1,522	5,345	111,160	1,429	119,455	1%
Admissions	10,870	264,310	438,060	35,268	748,508	9%
<u>Shopping</u>	<u>21,739</u>	<u>657,931</u>	<u>1,148,280</u>	<u>99,107</u>	<u>1,927,057</u>	<u>22%</u>
Total	76,087	1,714,828	6,525,820	386,696	8,703,431	100%
Pct	1%	20%	75%	4%	100%	0%

## Multipliers

Spending is converted to the associated income and jobs in the region using economic ratios and multipliers from an input-output model for Natchitoches Parish. The MGM2 model employs distinct multipliers for each tourism-related sector. The multipliers convert sales into the associated jobs and income and estimate secondary effects as the visitor spending circulates through the local economy. The MGM2 rural area multipliers best capture the area economy (the full set of MGM2 multipliers are reported in the Appendix, Table A-2).

Direct effects capture the sales, jobs and income in those businesses selling directly to visitors, e.g. hotels, restaurants, attractions, and retail shops. On average, every million dollars of visitor spending supports 24 direct jobs. Thirty-four percent of sales represent wages and salaries to workers in tourism businesses. The overall sales multiplier for the CRNHA region is 1.32. A sales multiplier of 1.32 means that for every dollar of direct sales another \$. 32 in sales is generated in the region through secondary effects<sup>3</sup>. The sales multiplier represents the ratio: (direct + secondary effects) / direct effects. Total sales effects can be estimated by multiplying the sales multiplier times direct sales.

<sup>3</sup> Secondary effects include sales in backward linked industries (indirect effects) in the region as well as sales from household spending of income earned from tourists (induced effects).

## Economic Impacts of Visitor Spending

The direct effects of CRNHA visitor spending is \$7.2 million in sales, approximately 207 jobs, \$2.5 million in wages and salaries and \$3.7 million in value added<sup>4</sup> to the region (Table 13). Another \$2.3 million in sales results from secondary effects that support an additional 36 jobs, \$782,000 in wages and salaries and \$1.4 million in value added. The total impact on the region including direct and secondary effects is roughly 250 jobs and \$3.2 million in wages and salaries.

**Table 13. Economic Impacts of CRNHA Visitor Spending, 2002**

Sector/Spending category	Direct Sales \$000's	Jobs	Personal Income \$000's	Value Added \$000's
Motel, hotel cabin or B&B	\$2,672	68	\$775	\$1,178
Camping fees	\$70	2	\$20	\$31
Restaurants & bars	\$2,234	70	\$703	\$980
Admissions & fees	\$749	22	\$258	\$421
Other vehicle expenses	\$119	2	\$33	\$52
Retail trade	\$1,178	42	\$601	\$938
Wholesale trade	\$144	2	\$58	\$99
<u>Local production of goods</u>	<u>\$34</u>	<u>0</u>	<u>\$1</u>	<u>\$2</u>
<b>Total Direct Effects</b>	<b>\$7,199</b>	<b>207</b>	<b>\$2,449</b>	<b>\$3,701</b>
<u>Secondary Effects</u>	<u>\$2,331</u>	<u>36</u>	<u>\$782</u>	<u>\$1,444</u>
<b>Total Effects</b>	<b>\$9,530</b>	<b>243</b>	<b>\$3,231</b>	<b>\$5,145</b>
<b>Multiplier</b>	<b>1.32</b>	<b>1.17</b>	<b>1.32</b>	<b>1.39</b>

## DISCUSSION

Using the MGM2 model, we are able to make estimates of spending by CRNHA visitors and the associated economic impacts of this spending. The largest potential source of error stems from the visit estimates. Attributing spending and impacts directly to heritage area programs also poses some difficulties. Visit estimates are based on counts at prominent facilities where reliable visitor counts are available. These counts will miss heritage visitors who do not visit one or more of the measured attractions during their trip. Summing visits will also double count some visitors. Our estimates assume an average visitor is counted about 2.3 times during their stay. This is consistent with the number of facilities that survey respondents reporting visiting.

<sup>4</sup> Wages and salaries include payroll benefits. Value added is the sum of wages and salaries of workers, rents and profits of businesses, and sales and other indirect business taxes. Value added is the preferred measure of the contribution of an industry or region to gross national or state product. It excludes the portion of sales that goes to purchase inputs from other firms.



Impact estimates are therefore based on 100,000 person trips to the area. The trip and spending estimates are reasonably consistent with other area travel statistics given some differences across data sources and the inherent difficulty of distinguishing among heritage tourists, CRNHA visitors, and general tourism in the region. For example, based on this study CRNHA visitor spending represents about a third of all tourism spending reported by TIA for Natchitoches parish in 2002. The direct effects in terms of jobs and personal income in the accommodation sector represents between 40 and 50% of all activity in the accommodations sector for 2002.

The impact models are linear so any adjustments in the overall estimate of visits or trips can be readily translated into revised impact estimates. That is, doubling trips will double impacts and halving them will cut impacts in half. Results are sensitive to the mix of trip types as overnight visitors staying in hotels have significantly greater economic impacts than day visitors or those staying with friends and relatives (VFR) in the area.

We cannot directly estimate the effects of heritage area designation or impacts of specific CRNHA programs. Almost two-thirds of visitors were not familiar with the heritage area and only four percent claimed to be very familiar with it. On the other hand, half of the on-site survey respondents indicated that one or more of the heritage area facilities was the primary reason for their trip. Among mailback survey respondents, 64% made the trip primarily to visit CRNHA, while 29% were making a side trip or stop en route to other destinations.

This study establishes useful baseline figures for CRNHA. It begins to identify the portion of overall tourism and economic activity in the region associated with heritage programs and facilities. Further research will be needed to evaluate specific CRNHA programs and track changes in activity over time. We especially recommend efforts to track visitation at a larger share of area attractions and also research to sort out potential double counting of visitors across these attractions.

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## APPENDIX

Table A1. Sites Visited by Sampling Location

Sampling location	Natchitoches Tourist Info. Center	Melrose Plantation	Fort St. Jean Baptiste	Oakland Plantation (NPS)
<b>Mailback Survey</b>				
Number of cases	32	29	14	31
Pct that visit individual site				
Visit Tourist Info Center	94%	59%	57%	52%
Visit Melrose Plantation	50%	86%	36%	61%
Visit Fort St. Jean de Baptiste	22%	24%	86%	13%
Visit Oakland Plantation unit (CRCNHP)	28%	21%	43%	77%
Visit Fort Jesup	13%	14%	29%	3%
Visit Old Courthouse	19%	24%	21%	26%
Visit Kate Chopin House	28%	31%	14%	45%
Visit Los Adaes	3%	0%	7%	0%
Visit Beau Fort Plantation	6%	17%	7%	10%
Visit Magnolia Plantation unit (CRCNHP)	3%	14%	7%	26%
Visit Magnolia Plantation Home	25%	17%	21%	45%
Other attractions	44%	57%	43%	52%
Number of sites with counts	2.6	2.6	2.9	2.8
Number of all sites	2.9	3.1	3.3	3.6
<b>Onsite Survey</b>				
Number of cases	162	89	50	98
Pct that visit individual site				
Visit Tourist Info Center	100%	34%	30%	26%
Visit Melrose Plantation	23%	100%	22%	49%
Visit Fort St. Jean de Baptiste	15%	13%	100%	22%
Visit Oakland Plantation unit (CRCNHP)	16%	16%	24%	100%
Visit Fort Jesup	6%	7%	18%	10%
Visit Old Courthouse	16%	17%	24%	23%
Visit Kate Chopin House	14%	21%	12%	32%
Visit Los Adaes	10%	4%	8%	8%
Visit Beau Fort Plantation	8%	10%	20%	28%
Visit Magnolia Plantation unit (CRCNHP)	10%	10%	12%	31%
Visit Magnolia Plantation Home	18%	11%	18%	40%
Number of sites with counts	2.0	2.1	2.4	2.7
Number of all sites	2.4	2.4	2.9	3.7

**Table A-2. MGM2 Sector-Specific Multipliers for Natchitoches Parish.**

Sector	Direct effects			Total effects multipliers				
	Jobs/ MM sales	Personal inc/sales	Value Added /sales	Sales I	Sales II	JobsII/ MMsales	IncII/ sales	VA II/sales
Hotels and lodging places	25.6	0.29	0.44	1.25	1.37	31.2	0.42	0.67
Eating & drinking	31.2	0.31	0.44	1.19	1.30	35.8	0.42	0.62
Amusement & recreation	29.4	0.34	0.56	1.19	1.32	34.4	0.45	0.76
Auto repair and service	12.9	0.28	0.44	1.16	1.26	17.0	0.37	0.60
Local transportation	33.3	0.53	0.62	1.11	1.28	38.0	0.63	0.79
Food processing	5.0	0.14	0.27	1.25	1.32	9.6	0.25	0.45
Apparel from purch mate	14.0	0.14	0.17	1.19	1.25	17.3	0.22	0.31
Petroleum refining	0.5	0.05	0.12	1.45	1.51	3.8	0.16	0.44
Sporting goods	7.4	0.27	0.51	1.16	1.25	11.1	0.36	0.66
Manufacturing	9.4	0.23	0.39	1.21	1.32	14.3	0.34	0.58
Retail trade	35.3	0.51	0.80	1.10	1.26	39.5	0.60	0.96
Wholesale trade	12.5	0.40	0.68	1.12	1.26	16.7	0.49	0.84

**Brief explanation of multiplier table:**

Direct effects are economic ratios to convert sales to jobs, income and value added.

Jobs/Million sales is the number of jobs per million dollars in sales in each sector.

Income/sales is the percentage of sales going to wages and salaries (includes sole proprietor's income)

Value added (VA)/sales is the percentage of sales that is value added (VA covers all income, rents, profits and indirect business taxes).

Total effects are multipliers that capture the total effect relative to direct sales. These capture the impacts from the circulation of visitor spending within the local economy.

Sales II multiplier = (direct + indirect + induced sales)/ direct sales

Sales I captures only direct and indirect sales = (direct + indirect sales)/ direct sales.

Job II/ Million sales = total jobs (direct + indirect + induced) per \$ million in direct sales.

Income II /Sales = total income (direct + indirect + induced) per \$ of direct sales

VA II/ Sales = total value added (direct + indirect + induced) per \$ of direct sales.

**Using hotel sector row to illustrate:**

Direct Effects: Every million dollars in hotel sales creates 26 jobs in hotels. Twenty-nine percent of hotel sales goes to wages and salaries of hotel employees and 44% of hotel sales is value added. That means 56% of hotel sales goes to purchase inputs by hotels. The wage and salary income creates the induced effects and the 56% spent on purchases by the hotel starts the rounds of indirect effects.

Multiplier effects: There is an additional 25 cents of indirect sales in the region for every dollar of direct hotel sales (type I sales multiplier = 1.25). Total secondary sales are 37 cents per dollar of direct sales, which means 25 cents in indirect effects and 12 cents in induced effects. An additional 5 jobs are created from secondary effects for each million dollars in hotel sales (31 total jobs – 26 direct jobs per million sales). These secondary jobs are scattered across other sectors of the local economy. Including secondary effects, every million dollars of hotel sales in Natchitoches Parish yields \$1.37 million in sales, \$420,000 in income, and \$670,000 in value added.

**Table A3. Employment in Natchitoches Parish, 2001**

Category	Jobs	Pct
Total employment	18,629	100%
Wage and salary employment	15,150	81%
Proprietors employment	3,479	19%
Farm proprietors employment	676	4%
Nonfarm proprietors employment	2,803	15%
Farm employment	810	4%
Nonfarm employment	17,819	96%
Private employment	13,189	71%
Forestry, fishing, related activities, and other	(D)	
Mining	(D)	
Utilities	155	1%
Construction	1,254	7%
Manufacturing	2,446	13%
Wholesale trade	479	3%
Retail trade	2,041	11%
Transportation and warehousing	420	2%
Information	192	1%
Finance and insurance	435	2%
Real estate and rental and leasing	388	2%
Professional and technical services	621	3%
Management of companies and enterprises	(D)	
Administrative and waste services	(D)	
Educational services	(D)	
Health care and social assistance	(D)	
Arts, entertainment, and recreation	195	1%
Accommodation and food services	1,509	8%
Other services, except public administration	1,106	6%
Government and government enterprises	4,630	25%

SOURCE: Bureau of Economic Analysis REIS data, 2001 by NAICS sectors.